

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A surgical microscope system for observing an eye of a patient, the surgical microscope system comprising:
 - a surgical microscope ~~(3)~~ having an observation beam path ~~(24)~~;
 - a beam splitter ~~(7)~~ in the observation beam path; and
 - a retinal diagnostic device having a digital retinal camera ~~(13)~~ and a camera beam path ~~(25)~~ separated from the observation beam path by the beam splitter ~~(7)~~, the camera beam path leading to the digital retinal camera ~~(13)~~.
2. (Currently Amended) The surgical microscope system as defined in Claim 1, wherein the retinal diagnostic device includes a retinal lens ~~(23)~~ in the observation beam path ~~(24)~~ between the ~~beam splitter (7)~~ beam splitter and the patient's eye.
3. (Currently Amended) The surgical microscope ~~(3)~~ as defined in Claim 2, wherein the retinal lens ~~(23)~~ directly contacts the patient's eye.
4. (Currently Amended) The surgical microscope ~~(3)~~ as defined in Claim 2, wherein the retinal lens ~~(23)~~ is spaced from the patient's eye.
5. (Original) The surgical microscope system as defined in Claim 1, further comprising means for alternately selecting a surgical microscope mode and a retinal diagnostic device mode.
6. (Currently Amended) The surgical microscope system as defined in Claim 1, further comprising a light guide ~~(16)~~ for transscleral retinal illumination.

7. (Currently Amended) The surgical microscope system as defined in Claim 6, further comprising an illumination source ~~(15)~~ connected at least to the light guide ~~(16)~~, wherein the illumination source ~~(15)~~ includes at least two color diodes.
8. (Currently Amended) The surgical microscope system as defined in Claim 7, wherein the illumination source ~~(15)~~ is a stroboscopic illumination source.
9. (Currently Amended) The surgical microscope system as defined in Claim 1, further comprising an imaging system ~~(30)~~ in the camera beam path ~~(25)~~, the imaging system ~~(30)~~ having adjustable lenses or lens groups ~~(12, 12a)~~.
10. (Currently Amended) The surgical microscope system as defined in Claim 9, further comprising an illumination source ~~(15)~~ including at least two color diodes, wherein the imaging system ~~(30)~~ provides chromatic correction for the wavelengths of the at least two color diodes of the illumination source ~~(15)~~.
11. (Currently Amended) The surgical microscope system as defined in Claim 10, wherein the imaging system ~~(30)~~ includes diffractive elements and conventional lenses.
12. (Currently Amended) The surgical microscope system as defined in Claim ~~1-9~~, wherein the digital retinal camera ~~(13)~~ comprises a CCD array having a plurality of pixels in a common plane, and the beam profile leaving the imaging system ~~(30)~~ is oriented substantially perpendicularly onto the plane of the pixels of the CCD array.
13. (Currently Amended) The surgical microscope system as defined in Claim 2, wherein the surgical microscope ~~(3)~~ includes a main objective ~~(4)~~ in the observation beam path ~~(24)~~, and the retinal lens ~~(23)~~ is movable into and out of the observation beam path ~~(24)~~ at a location between the main objective ~~(4)~~ and the patient's eye.

14. (Currently Amended) The surgical microscope system as defined in Claim 13, further comprising a pivoting-in apparatus ~~(21)~~ carrying the retinal lens ~~(23)~~, whereby the retinal lens ~~(23)~~ can be pivoted into and out of the observation beam path ~~(24)~~.
15. (Currently Amended) The surgical microscope system as defined in Claim 1, wherein the surgical microscope ~~(3)~~ is a surgical stereomicroscope.
16. (Currently Amended) The surgical microscope system as defined in Claim 13, further comprising a beam transposer ~~(11)~~ movable into and out of the observation beam path ~~(24)~~ at a location between the main objective ~~(4)~~ and the patient's eye.
17. (Currently Amended) The surgical microscope system as defined in Claim 16, further comprising a pivoting-in apparatus ~~(21)~~ carrying the retinal lens ~~(23)~~ and the beam transposer ~~(11)~~, whereby the retinal lens ~~(23)~~ and the beam transposer ~~(11)~~ can be pivoted into and out of the observation beam path ~~(24)~~.
18. (Currently Amended) The surgical microscope system according to Claim 16, further comprising an auxiliary lens ~~(28)~~ movable into and out of the observation beam path ~~(24)~~ at a location between the main objective ~~(4)~~ and the patient's eye.
19. (Currently Amended) The surgical microscope system as defined in Claim 18, further comprising a pivoting-in apparatus ~~(21)~~ carrying the retinal lens ~~(23)~~, the beam transposer ~~(11)~~, and the auxiliary lens ~~(28)~~, whereby the retinal lens ~~(23)~~, the beam transposer ~~(11)~~, and the auxiliary lens ~~(28)~~ can be pivoted into and out of the observation beam path ~~(24)~~.
20. (Currently Amended) The surgical microscope system as defined in Claim 1, further comprising microscope illumination system ~~(8)~~ associated with the surgical microscope ~~(3)~~, wherein the microscope illumination system ~~(8)~~ can be switched off during operation of the digital retinal camera ~~(13)~~.

21. (Currently Amended) The surgical microscope system as defined in Claim 7, further comprising a computer (17)-connected to the illumination source-(15), wherein the illumination source (15)-can be switched on automatically, under the control of a computer-(17), upon image acquisition by the digital retinal camera-(13).
22. (Currently Amended) The surgical microscope (3)-as defined in Claim 8, wherein the pulse frequency of the illumination source (15)-lies above the flicker limit of an observer's eye-(6).
23. (Currently Amended) A surgical microscope system for observing an eye of a patient, the surgical microscope system comprising:
- a surgical microscope (3)-having an observation beam path-(24);
 - a beam splitter (7)-in the observation beam path;
 - a retinal diagnostic device having a digital retinal camera (13)-and a camera beam path (25)-separated from the observation beam path by the beam splitter (7), the camera beam path leading to the digital retinal camera-(13);
 - a microscope illumination system (8)-associated with the surgical microscope-(3);
 - a first light guide (16)-arranged to provide transscleral retinal illumination;
 - an illumination source (15)-connected to the microscope illumination system (8) and to the first light guide (16)-to selectably provide illumination light to either of the microscope illumination system (8)-and the first light guide-(16).
24. (Currently Amended) The surgical microscope system as defined in Claim 23, further comprising:
- a second light guide (9) arranged to deliver light to the microscope illumination system-(8); and
 - an optical light branching switch (31) connecting the first light guide (16)-and the second light guide (9) to the illumination source-(15), whereby light from the illumination source (15)-can be switched between the first light guide (16)-for use in transscleral retinal illumination and the second light guide (9)-for use in microscope illumination system-(8).

25. (Currently Amended) The surgical microscope system as defined in Claim 24, further comprising a computer (17)-connected to the optical light branching switch (31)-for controlling the optical light branching switch-(31).
26. (Currently Amended) The surgical microscope system as defined in Claim 25, wherein the surgical microscope (3)-includes a main objective (4)-in the observation beam path (24)-and the retinal diagnostic device includes a retinal lens-(23), a beam transposer-(11), and an auxiliary lens (28)-movable into and out of the observation beam path (24) between the main objective (4)-and the patient's eye, wherein the retinal lens-(23), the beam transposer-(11), and the auxiliary lens (28)-are carried into and out of the observation beam path (24)-by a mechanism (21)-controlled by computer-(17).
27. (Currently Amended) A surgical microscope system for observing an eye of a patient, the surgical microscope system comprising:
- a surgical microscope (3)-having an observation beam path (24)-and a stereo tube (5)-on the observation beam path-(24);
 - a beam splitter (7)-spaced from the stereo tube (5)-in the observation beam path (24); and
 - a retinal diagnostic device having a digital retinal camera (13)-and a camera beam path (25)-from the beam splitter (7)-to the digital retinal camera-(13), the retinal diagnostic device further having a beam transposer (11)-removably installed in the observation beam path (24) between the stereo tube (5)-and the beam splitter-(7).
28. (Currently Amended) The surgical microscope system as defined in Claim 27, wherein further comprising a computer (17)-for controlling installation of the transposer (11)-in the observation beam path-(24).